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Remedial Action Plan Proposed for ARCO Service Station 5001 Cutting Boulevard Richmond, California

Fact Sheet: May 2007

The Regional Water Quality Control Board (Water Board) is issuing this fact sheet to notify the community about the on-going and proposed environmental investigation and cleanup activities associated with ARCO Service Station located at 5001 Cutting Boulevard in Richmond, California (Site), and to invite public comment on the Remedial Action Plan (RAP) for the subject site.

The 30-day comment period runs from **May 31 to June 30, 2007**. Written comments may be sent, post-marked no later than June 30, 2007, to the following address:

Regional Water Quality Control Board
Attention: Barbara Sieminski
1515 Clay Street, Suite 1400
Oakland, California 94612
Email: bsieminski@waterboards.ca.gov

The ARCO Service Station is an operating gas station located on the northeastern corner of the intersection of Cutting Boulevard and 50th Street in Richmond, California. Soil and groundwater beneath the site have been impacted by fuel leaks from underground storage tanks (USTs). Active soil and groundwater remediation activities are anticipated to begin at the Site in the second half of 2007. A brief site description of the release, interim actions, proposed cleanup measures, and site information sources and repositories, is attached to this notification letter.



Problem Description:

During tank replacement activities in November 1998, petroleum impacted soil and groundwater were encountered beneath the Site. Subsequently, three groundwater monitoring wells were installed at the Site in 2002, six additional monitoring wells, located both on- and off-site, were installed in 2004 and 2005 to further delineate the extent of impacted groundwater. Groundwater sampling results indicated that contamination has migrated off-site to the southwest. An extraction well was installed on-site in 2005 for the purpose of potential site remediation. Soil vapor assessment work was performed at the Site in 2005 and 2006. Groundwater samples have been collected from groundwater monitoring wells on a quarterly schedule since 2002 to evaluate dissolved hydrocarbon concentrations over time.

Proposed Cleanup Action:

A Remedial Action Plan (RAP) has been submitted to the Water Board proposing installation of a dual phase extraction (DPE) system to mitigate off-site migration of impacted groundwater as well as remediate soil and groundwater contamination beneath the subject site (see Pages 3 and 4). A pilot test utilizing this technology has been conducted on-site and has proven to be effective. The remedial system will be installed following approval by the Water Board.

For More Information:

If you have questions, please contact:

Regional Water Quality Control Board
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telephone: (510) 622-2423;
email: bsieminski@waterboards.ca.gov
address: 1515 Clay St, Ste 1400, Oakland,
CA 94612

HerSchy Environmental, Inc.
Scott Jackson
telephone: (559)-641-7320
email: scottjhersch@sti.net
address: P.O. Box 229, Bass Lake, CA 93604

Information Repositories:

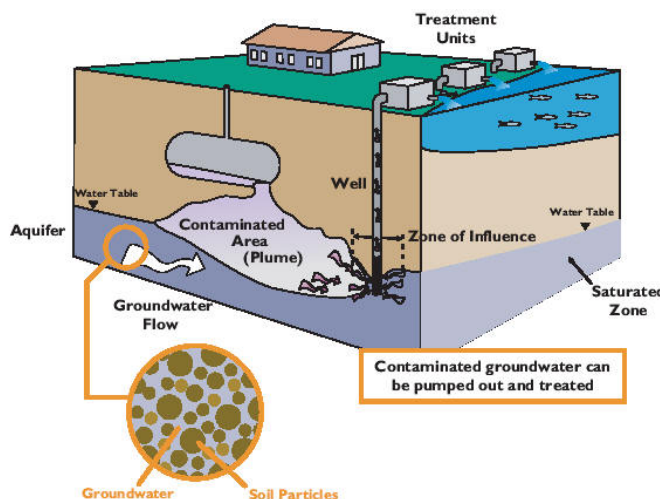
The environmental site assessment reports, RAP, as well as other documents related to the Site are available for public review at the following locations:

Regional Water Quality Control Board
San Francisco Bay Region
1515 Clay St, Ste 1400, Oakland, CA 4612
Telephone: 510-622-2430

State Water Resources Control Board Website:
<http://www.waterboards.ca.gov/sanfranciscobay>
or Geotracker database:
<http://geotracker.swrcb.ca.gov>
Case # 07-0824

What is Groundwater?

Imagine pouring a glass of water onto a pile of sand. Where does the water go? The water moves into the spaces between the particles of sand. Groundwater is water that fills the spaces between rocks and sediment particles underground. The area where water completely fills these spaces is called the saturated zone. The top of this zone is called the water table. The water table may be only a foot below the ground surface or it could be hundreds of feet down (at the ARCO Service Station the water table is about 10 feet below ground surface). The water table rises and falls depending on many factors, including heavy rains and extended periods of dry weather. Human activity may also draw down the water table by pumping out water for drinking water supply or irrigation. Groundwater is stored in and moves through layers of sediment and rock called aquifers. If contamination is present in or on soil above the aquifer, rain can carry contaminants through the soil to the aquifer. A body of contaminated groundwater is called a groundwater plume. A groundwater well is a hole drilled into an aquifer that contains a pipe used to extract groundwater for various purposes such as water supply, groundwater monitoring, or aquifer remediation.

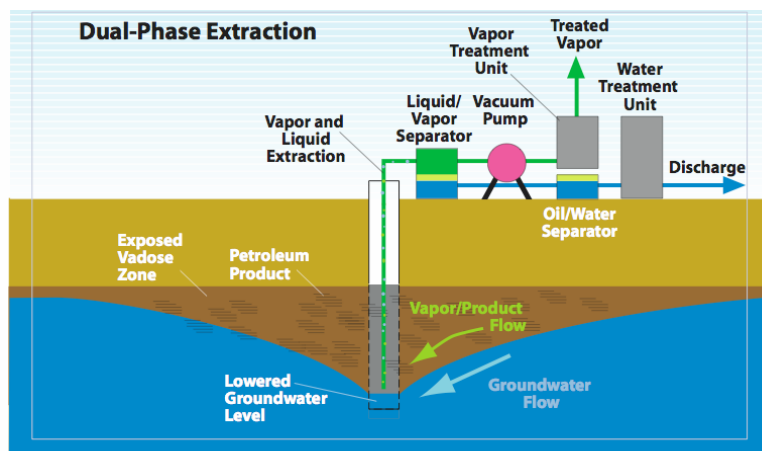


The unsaturated zone above the water table is called the vadose zone. In the vadose zone, the spaces between the soil particles contain soil vapor. Soil vapor is a gas that contains air, evaporated water, and in some places contaminants such as petroleum vapors that evaporated from the fuel spilled onto the soil or from the fuel dissolved in, or floating on, the groundwater.

Groundwater Cleanup

One technology that is used to clean up contaminated groundwater involves extracting both groundwater and soil vapor, then cleaning it. This technology is called dual-phase extraction, and uses extraction wells to simultaneously remove contaminated groundwater and soil vapor from the aquifer. A vacuum extraction pump is used to pull water and vapor out of the ground. A treatment system at the ground surface removes contaminants from the extracted water and vapor. This technology is often used in areas that have tight soils that are difficult to remove groundwater from using conventional pumping methods.

The proposed dual-phase extraction system at the ARCO Service Station site would include initially 1 extraction well (additional wells may be added later). A vacuum extraction pump would be connected to the extraction well/wells through underground piping to pull contaminated groundwater and soil vapor to a remediation compound in the northeastern portion of the site. The water and vapor would then be treated as appropriate to ensure protection of human health and the environment.



Water and Vapor Treatment

Recovered groundwater will be directed to an air stripper for initial treatment followed by a final polish through one vessel containing organophyllic clay filtration media and two carbon vessels prior to discharge to the sanitary sewer. Treated water will be tested to make sure it meets regulatory requirements before it is discharged to the storm drain. Contaminants in the extracted soil vapors will be destroyed by the electric catalytic oxidizer prior to discharge of the vapor to the atmosphere under a permit from the Bay Area Air Quality Management District (BAAQMD). The picture on the right shows a holding tank and two activated carbon vessels similar to those that would likely be used at the site.



Groundwater Monitoring and Cleanup Progress Evaluation

Routine water and air discharge sampling will be conducted while remedial system is in operation in accordance with the acquired permits and reported to the regulatory agencies. Currently, a network of groundwater monitoring wells is used at the ARCO Service Station site to collect water samples for laboratory analyses, and obtain water level measurements. Results of the groundwater monitoring program are presented in reports available to the public for review (see Page 2 for information on repository locations). This groundwater monitoring will continue to provide information on contaminant concentrations, which will allow an assessment of cleanup progress, and plume movement.